

REMARKS

Claims 1-23 are pending in the instant application. All of the pending claims are rejected.

Rejection under 35 U.S.C. 112, second paragraph

The Examiner rejects claims 1-23 under 35 U.S.C. 112, second paragraph as allegedly unclear. Applicants herein adapt the pending claims to those in a corresponding granted European application. The amendments made to clarify the claims include the following:

1. The recitations of claim 3 are included in claim 1, and the recitation “in a way that is accessible to the attracted insects” is deleted;
2. In claim 1, the recitation “mineral support” is replaced by “adsorbent support” since both refer to the same thing, and the latter is used more frequently in the specification;
3. Claims 2 and 7 are amended to overcome rejection being purely grammatical changes;
4. Claim 6 is cancelled without prejudice;
5. Claims 13 and 19 are amended to correct some obvious clerical errors in the ranges (*See*, paragraphs [0031] and [0033] respectively for express support for the ranges corrected);
6. Claims 14 and 15 are amended to overcome the rejection based upon purely grammatical issues;
7. Claim 23 is amended to read more clearly by changing the syntax though in no way changing the meaning or introducing new matter.

Applicants respectfully submit that claim 9 is not amended since we understand it is a selection of the possible intermediate adhesive defined in claim 2. Likewise, claim 16 is not modified since it has support as is evident in claim 5 where it is recited that “[...] *the semiochemical component is adsorbed on a natural or synthetic support [...] and this support can be the same as or different.*” Also Applicants respectfully direct the Examiner’s attention to paragraph [0036] where it is clearly disclosed in a preferred embodiment the possibility that the spores and the semiochemical component are adsorbed in different supports. Therefore, there is support for claim 16 both in claim 5 and also in the specification.

Rejection under 35 U.S.C. 103

The Examiner rejects claims 1-9, 14, 15, and 17-23 as unpatentable under 35 U.S.C. 103 over Gunner *et al.* WO92/03055 and Bradley *et al.* WO95/10597.

The references, even if combined do not teach the present invention

Gunner *et al.* teach an adsorbent material that is not used according to the present invention. Applicants submit that a major difference between the teachings of Gunner *et al.* and the present invention is that Gunner *et al.* teach that the spores are maintained viable by making them germinate on a culture media that permits fungus development. Also, the spores depend on this culture media for survival. The device active life according to Gunner *et al.* also depends on the named culture media. Applicants submit that this culture media, by the active growing of the spores, is consumed and drained with relative quickness. Once it is mostly consumed, the spores generated after vegetative growing of the fungus may remain viable, but not for long because of they have no protection against, for example, the drainage.

In the present invention, the spores are maintained viable but ***without germinating*** for a period of time of up to three months by means of an exhaustive humidity control in the vehicle and also by a proper protection of the spores with oil (the last being widely disclosed in the prior art). The results of effective time obtained in the laboratory were then compared in the field, specifically in citric culture, and the same results were obtained in terms of effective life of the device.

Bradley *et al.* teach using clay as a spore carrier to stabilize the emulsion water/oil with the goal of preparing a stable composition ***for being sprayed***. According to Bradley *et al.*, the clay permits the liquids to remain emulsified, also in pulverization equipment without agitation. This stabilizer use of the emulsion is completely different from the spore carrier use according to the present invention. The principal function of the adsorbent material of the present invention is to maintain the semiochemical component adsorbed (specific chemical attractant for the plague to control, e.g. pheromone, parapheromone, kairomona, attractant nutrient compounds etc.) and to emit the same in a controlled, efficient and durable way during a long period of time equal or superior to the spores' period of viability.

The present invention provides a method whereby insects are attracted to a trap to contaminate the same, obtaining in this way a very selective control method with difference with other spraying methods in culture, where also other species that do not need to be controlled can be affected. Additionally, the same adsorbent material or any other, in the

event that there is some incompatibility between any of the compounds (spores, oil and semiochemical), is only used with the intention of being only a physical support for spores that permits the same being homogeneously distributed onto the vehicle surface where insects will settle and become infected. In conclusion, the adsorbent support of the present invention does not have any stabilizer effect for the spores as is taught by Bradley *et al.* Therefore, the present invention is not comparable to the teachings of Bradley *et al.*

There is no teaching or suggestion to combine the references

As the Examiner knows, in order to establish a proper *prima facie* case of obviousness, the Examiner must establish that there is a suggestion or motivation to modify the references or to combine the reference teachings; there must be a reasonable expectation of success; and the references or combination of references must teach or suggest all of the claim limitations (*see, e.g.*, MPEP § 2142). The teachings or suggestions to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure (*In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cr. 1991)). The arguments advanced by the Examiner fail to meet all of these criteria.

The formulae disclosed by Bradley *et al.* cannot practically be used in a device as taught by Gunner *et al.* Bradley *et al.* teach an emulsifiable product containing spores where the adsorbent material has an important role but that is not practical if it is not prepared for being sprayed. In the case of being directly applied in the device, onto the culture media, the fact of having included the adsorbent material and/or oil does not provide any advantage because the spores would germinate in a similar way to the manner they would germinate in the absence of such products. Once germinated, the oil protecting effect disappears.

The present invention provides unexpectedly superior results

Applicants remind the Examiner that even if, *assuming arguendo*, a *prima facie* case of obviousness could be said to exist, the present invention is still patentable because it provides unexpectedly superior results. The present invention provides unexpectedly superior results and properties as follows:

1. The composition and carrier may be used for a longer time because of the possibility of attracting insects over a long time as a consequence of the mechanism of controlled release;
2. The ability of using the carrier and the composition for a long time due to the

long period of life of the spores, achieved with the precise humidity degree; and

3. Increased specificity thanks to the use of a semichemical substance.

In view of the foregoing characteristics, the present invention provides a composition that can be used longer than any previously known in the art and in a completely selective way.

Furthermore, the local form of application of the present invention is more specific and ecological than general spraying. This property presents advantages to front spraying methods where the microorganism is exposed to other organisms as explained above.

In order to further clarify the advantages of the present invention and in particular, to demonstrate the long duration period of the compositions of the present invention, a copy of the article published by Pilar Moya, *Horticultura*, March 2003, page 23 to 30, is enclosed herewith (with English translation).

Applicants further submit that the present invention solves problems that have not been solved by the prior art. A major problem of the prior art is that the fungi do not last in the field due to the loss of viability of the spores, which are usually very sensitive to environmental conditions (especially humidity and UV radiation). Because of this sensitivity, the prior art treatments require very frequent applications (weekly in most cases). However, the present invention provides an efficient and long lasting tool for combating insects. The experimental data shown in the two examples of the present application provide proof of the efficiency of the device and composition of the present invention during 90 days.

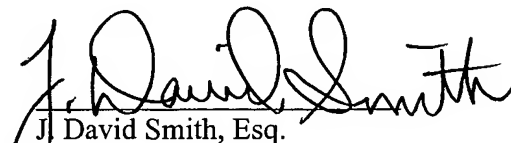
FEES

No fees are believed necessary in connection with the present submission; however, should this be in error, authorization is hereby given to charge Deposit Account No. 11-1153 for any underpayment or to credit any overage.

CONCLUSION

It is believed that the claims are now patentable and early notification as such is solicited. In the event any issues may be resolved by telephone, the Examiner is invited to contact that undersigned at the telephone number provided below.

Respectfully submitted,


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